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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,081	07/22/2005	Ole Simonsen	10200.204-US	1176
25908 7590 11/26/2007 NOVOZYMES NORTH AMERICA, INC. 500 FIFTH AVENUE SUITE 1600 NEW YORK, NY 10110			EXAMINER DOUYON, LORNA M	
			ART UNIT 1796	PAPER NUMBER
			MAIL DATE 11/26/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/543,081	Applicant(s) SIMONSEN ET AL.	
	Examiner Lorna M. Douyon	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/22/05</u> . | 6) <input type="checkbox"/> Other: _____ |

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Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it need not recite "This invention relates to" (see first line), and the term "said" (see second line) should be replaced with "the". Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claim 28 is objected to because of the following informalities: "components" in line 1 should be in singular form. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 20, line 2, the range "5 to 7" is outside the scope of "1 to below 7" in claim 18, to which this claim is dependent upon.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 18-21, 25-26 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 2020227, hereinafter "DE '227".

DE '227 teaches washing and cleaning powders with enzyme-coated particles, and the powders consists of at least 2 separately made constituents, namely 1 to 20%

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of enzyme-coated washing powder particles (A), 50-99% of enzyme-free washing powder particles (B) and 0 to 35% powder particles of percompound (C). Component (A) is 40- 60 parts pentasodium triphosphate, 10 to 40 parts sodium sulphate, 0 to 12 parts disodium hydrogen phosphate (which reads on the acidic buffer of the present claims), 1 to 10 parts of an enzyme preparation, and 3 to 8 parts of an addition product of 6 to 12 mols ethylene oxide on 1 mol of an alcohol or alkyl phenol with 14 to 18C atoms. The compositions are free flowing and are especially used for automatic washing machines (see abstract). DE '227, however, fails to specifically disclose an amount of at least 10% of the disodium hydrogen phosphate; the pH of the disodium hydrogen phosphate (i.e., acidic buffer) when measured as a 10% aqueous solution and its pK_a .

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the prior art's range (i.e. 10-12%) which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the prima facie case of obviousness. See *In re Boesch*, 627 F.2d 272,276,205 USPQ 215,219 (CCPA 1980). See also *In re Woodruff* 919 F.2d 1575, 1578,16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454,456,105 USPQ 233,235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges

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disclosed by the prior art", see *In re Wertheim*, 541 F.2d 257,191 USPQ 90 (CCPA 1976; *In re Woodruff*; 919 F.2d 1575, 16USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2131.03 and MPEP 2144.05 I.

With respect to the pH and pK_a values of the acidic buffer component, it would have been obvious to one of ordinary skill in the art at the time the invention was made to reasonably expect the disodium hydrogen phosphate to possess a pH and pK_a values within those recited because similar acidic buffer components have been utilized.

8. Claims 18-26, 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izawa et al. (US Patent No. 5,858,952), hereinafter "Izawa".

Izawa teaches an enzyme-containing granulated product containing, in a uniformly dispersed state, an enzyme and one or more stabilizers selected from the group consisting of reducing agents and antioxidants; a method for the production of the granulated product, as well as bleaching agents and detergent compositions containing the granulated product (see abstract). One example of a reducing agent as stabilizer is isopropyl citrate (see col. 2, lines 43-50). The amount of stabilizers (i.e., reducing agent) vary depending on the types of enzymes employed, preferably between 0.1 and 3,000% by weight, more preferably between 1 and 500% by weight, and particularly preferably between 10 and 300% by weight, calculated in relation to the amounts of enzyme protein (see col. 2, line 62 to col. 3, line 1). Powdery bulking agents may also be added if needed, and one example is sodium citrate (see col. 3, lines 42-52). The method for the manufacture of the granulated product includes spray-drying, freeze-drying,

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extruding, tumbling, fluidized-bed granulation, spray granulation and disintegration granulation (see col. 3, line 63 to col. 4, line 28). The enzyme-containing granulated product preferably has a coating thereon so as to obtain even further improved stability (see col. 4, lines 33-36). Materials used for coating the enzyme-containing granulated product are not particularly limited, and they may include water-soluble film-forming polymers like polyacrylate (see col. 4, lines 33-43). Coating materials are preferably used in a ratio by weight of 0.1 to 0.7 when the amount of the enzyme-containing granulated product is taken as 1 (see col. 4, lines 47-50). The amount of the enzyme-containing granulated product to be incorporated into a detergent composition is preferably between 0.001 and 70% by weight (see col. 5, lines 6-11). Izawa, however, fails to specifically disclose a core comprising an enzyme and citrate, the pH and pK_a values of the citrate.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to prepare a core comprising an enzyme and a citrate (i.e., isopropyl citrate, as the reducing agent, or sodium citrate, as the bulking agent) because Izawa teaches said compounds as suitable stabilizers which are effective in avoiding deactivation of the enzyme and provides a granulated product having excellent solubility as disclosed in col. 1, lines 52-59.

With respect to the pH and pK_a values of the citrate salt, it would have been obvious to one of ordinary skill in the art at the time the invention was made to reasonably expect the citrate salt to possess a pH and pK_a values within those recited because similar components have been utilized.

9. Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE '227 or Izawa as applied to the above claims, and further in view of Rahman et al. (US Patent No. 6,355,607), hereinafter "Rahman".

DE '227 or Izawa teaches the features as described above. DE '227 or Izawa, however, fails to disclose the acidic buffer component being NaH_2PO_4 or $\text{Na}_2\text{H-citrate}$.

Rahman, in an analogous art, teaches the equivalency of disodium hydrogen phosphate with sodium dihydrogen phosphate, as well as citrate salts with disodium hydrogen citrate and sodium dihydrogen phosphate as acidification components (see col. 2, lines 14-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute disodium hydrogen phosphate of DE '227 with sodium dihydrogen phosphate, or the citrate salt of Izawa with disodium hydrogen citrate or sodium dihydrogen phosphate because the substitution of art recognized equivalents as shown by Rahman is within the level of ordinary skill in the art.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. These references are considered cumulative to or less material than those discussed above.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lorna M. Douyon whose telephone number is 571-272-1313. The examiner can normally be reached on Mondays-Fridays 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Lorna M. Douyon/
Primary Examiner
Art Unit 1751

LMD
11-20-07